

Application Number 10/755,143

Amendment with Request for Continued Examination

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This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1 (Currently amended): A system for reading and writing information to magnetic media comprising:

a planar array of write heads arranged in a two-dimensional matrix, wherein each of the write heads defines a write channel for the system as the magnetic media moves in a direction of motion relative to the planar array of write heads, and wherein each of the write heads includes an excitation coil that coils in a direction perpendicular to a plane defined by the planar array of write heads; and

a linear array of magnetoresistive (MR) heads, wherein each of the MR heads defines a read channel for the system, and wherein each of the write heads in the two dimensional matrix corresponds to one of the MR heads of the linear array of MR heads such that each of the write channels corresponds to one of the read channels as the magnetic media moves in the direction of motion.

Claim 2 (Canceled).

Claim 3 (Original): The system of claim 1, wherein each of the write heads is substantially aligned with a corresponding one of the read heads such that each of the write channels substantially aligns with a corresponding one of the read channels.

Claim 4 (Original): The system of claim 3, wherein the write channels are separated by less than 100 microns and the read channels are separated by less than 100 microns.

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Claim 5 (Original): The system of claim 4, wherein the write channels are separated by less than 50 microns and the read channels are separated by less than 50 microns.

Claim 6 (Original): The system of claim 5, wherein the write channels are separated by less than 10 microns and the read channels are separated by less than 10 microns.

Claim 7 (Original): The system of claim 1, wherein the MR heads comprise giant magnetoresistive (GMR) heads.

Claim 8 (Original): The system of claim 1, wherein a number of write heads in the array of write heads is the same as a number of MR heads in the array of read heads.

Claim 9 (Original): The system of claim 1, wherein each of the write heads and each of the MR heads are independently controllable.

Claim 10 (Original): The system of claim 1, further comprising a write head controller for each of the write heads and an MR head controller for each of the MR heads.

Claim 11 (Canceled).

Claim 12 (Previously Presented): The system of claim 1, further comprising an additional head that functions as a read element that reads pre-written servo marks.

Claims 13-20 (Canceled).

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Claim 21 (Withdrawn): The system of claim 1, wherein the magnetic media comprises magnetic tape and wherein the array of write heads comprises a first array of write heads that define write channels for the system in a first tape direction, the system further comprising:

a second array of write heads arranged in another two-dimensional matrix, wherein the write heads in the second array of write heads define write channels for the system in a second tape direction,

wherein the array of MR heads is positioned between the first and second arrays of write heads, wherein the MR heads define read channels for the system in both the first and second tape directions.

Claim 22 (Withdrawn): The system of claim 21, wherein the write heads of the first array of write heads substantially align with the read heads such that the write channels of the first array of write heads substantially align with the read channels, and wherein each of the write heads of the second array of write heads substantially align with the read heads such that the write channels of the second array of write heads substantially align with the read channels.

Claim 23 (New): The system of claim 1, wherein one or more of the write heads also functions as a read element that reads pre-written servo marks.

Claim 24 (New): The system of claim 1, further comprising separate actuators for the planar array of write heads and the linear array of read heads, wherein servo tracking is performed independently for the planar array of write heads and the linear array of read heads.